

Responding to Michigan's Energy Crisis

5 Steps for Michigan's Leaders to Invest
in a Smarter Energy Future

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Executive Summary

Michigan's energy future is at a crossroads. Skyrocketing heating bills and oil prices, decreased energy reliability, and the mounting evidence of negative economic, public health and environmental impacts from fossil fuel usage are all putting the spotlight on our increasingly insecure, expensive, wasteful, and polluting energy infrastructure.

We have a choice. Michigan can continue to follow our current energy path where ever-increasing demand leads to ever-increasing reliance on fossil fuels and mounting economic, environmental and health consequences. This leads to a future in which Michigan's homes and businesses spend more than is needed on energy, Michigan's energy dollars continue to pour out of our state and into other states and countries, and tremendous economic growth opportunities related to clean energy remain untapped.

Or, we can demand a new, smarter energy future for Michigan. This future conserves energy, uses it efficiently and relies on indigenous renewable resources, thus investing in our state's economy, saving money and protecting the Great Lakes and our health. PIRGIM (Public Interest Research Group in Michigan) urges Michigan's elected officials to follow this path.

This white paper offers 5 steps that our elected officials can take right now to put

Michigan on a path to an economically prosperous and environmentally sound energy future:

- 1. Provide incentives and standards for energy-efficient products and services.**
- 2. Reinstate utility energy efficiency programs and Public Benefits Fund.**
- 3. Ensure that new buildings are energy efficient by updating building codes.**
- 4. Establish state government as a leader and driver of energy efficiency and renewable energy.**
- 5. Pass a strong Renewable Energy Standard and remove unfair barriers to renewable energy.**

Our current energy system is inefficient and broken. Fortunately, there is a better way for Michigan. With high unemployment and highly inefficient energy usage yet great manufacturing capacity and large renewable energy potential, Michigan is poised to benefit greatly from an energy future focused on renewables, energy efficiency and energy conservation. What is needed now is political leadership to respond to Michigan's energy crisis and invest in a smart energy future.

Introduction: An Approaching Crisis

Michigan's energy future is at a crossroads.

This winter, Michigan's consumers are facing a staggering increase in home heating bills. For most Michiganders, natural gas and fuel oil prices are causing bills to increase nearly 50% from last winter¹ and bills have tripled since the turn of the new century, just six years ago. Last summer, gas prices surged to over \$3 per gallon. Consumers and businesses are **spending an increasing proportion of their income or revenues to meet basic energy needs**. Skyrocketing heating and transportation prices are taking a toll on Michigan's families and on our economy, as more of our earnings go to out-of-state oil and gas companies, and fewer dollars stay in Michigan to purchase goods and services and create jobs. Alone this would be cause for concern, but when coupled with the massive blackout of 2003 and the serious health, environmental and economic effects of power plant pollution, it is clear that our current energy system has serious, systemic flaws. This approaching crisis has direct implications for Michigan's economy and our very way of life since energy is used for transportation, heating and cooling our buildings, generating electricity for business and residential usage and a myriad of other essential functions.

The main goal of this white paper is not to outline the problems associated with our current energy usage but rather to outline policy solutions. However, to lay a foundation for the proposed policy solutions, this section will provide a brief answer to the question: Why is Michigan in this "energy crisis"?

The first reason is that **Michigan uses too much energy because we waste too much energy**. The underlying, big-picture problem is that domestic and worldwide demand for oil and natural gas has been climbing while supplies are growing scarce. Simply put, demand is outpacing supply. **From 1960 to 2001, Michigan's energy consumption grew by almost 300% while population grew by 26%.** Michigan's energy demand is growing at approximately 2%/year.² Despite this growing problem, policymakers are missing opportunities to invest in energy saving technologies.

Second, the energy Michigan overuses is economically unsustainable, environmentally unsound, and risky politically and socially. For example, Michigan's electricity portfolio includes 56.7% coal, 26.4% nuclear, 13.4% natural gas and only 2% from renewable sources. 79% percent of the overall home heating market uses natural gas as its primary fuel, with the remainder largely using propane (10%) or electricity (7%). Michigan is almost completely reliant

on non-renewable, expensive, polluting fossil fuels, thus driving up prices and damages. This reliance is being actively encouraged by subsidies to the fossil fuel industry.

Third, most of Michigan's energy comes from out-of-state. **Michigan imports 100% of our coal, 100% of our uranium, 96% (and growing) of our oil, and 75% (and growing) of our natural gas.** According to Michigan's Public Service Commission (PSC), of the \$27 billion Michigan spent on energy in 2004, over \$18 billion (5% of the state's GSP) was paid to out-of-state entities. This means Michigan's financial resources are flowing out of the state, while polluting, non-renewable fuels flow in. Our political and regulatory climate has done little to encourage home-grown renewable energy manufacturing and use.

Michigan's current energy path is supported by the oil, coal, utility, auto and other industries, whose leaders mistakenly believe they have a vested stake in delaying a transition to a renewable and clean energy economy. These **special interests**

have blocked meaningful policy changes.

They have been successful in securing huge subsidies for the fossil fuel industries, and maintaining those subsidies long after they should have been able to compete without them. Meanwhile, they have created and maintained barriers to the much greater adoption of energy efficiency and renewable energy. Yet, surveys repeatedly show strong support among Michiganders for energy efficiency, renewable energy and for decreasing our reliance on out-of-state fossil fuels.

From skyrocketing prices to blackouts, from severe weather caused by global warming to increased asthma and cancer, the consequences of our energy policies become more apparent with each passing day and year. Michigan deserves a **safe, clean, prosperous energy future.** The goal of this PIRGIM white paper is to outline 5 specific clean energy solutions that elected officials can implement now to benefit all Michiganders and our natural resources and economy.

Michigan deserves a safe, clean, prosperous energy future.

Clean, Simple, Smart Solutions

We have a choice. Michigan can continue to follow our current energy path where ever-increasing demand leads to ever-increasing reliance on fossil fuels and mounting economic, environmental and health consequences. The current dominant “solution” to our energy crisis is to expand drilling for and use of fossil fuels to attempt to keep pace with ever-growing demand. This leads to a future where Michigan’s homes and businesses **spend more than is needed on energy**, Michigan’s energy dollars continue to pour out of our state and into other states and countries, and tremendous economic opportunities related to clean energy remain untapped.

Or, we can demand a new, smarter energy future for Michigan. This future **conserves energy, uses it efficiently, and relies on indigenous renewable resources**, thus investing in our state’s economy, saving money, and protecting the Great Lakes and our health. PIRGIM urges Michigan’s elected officials to follow this path.

This white paper offers 5 steps that our elected officials can take right now to put Michigan on a path to an economically viable and environmentally sound energy future:

1. Provide incentives and standards for energy-efficient products and services.
2. Reinstate utility energy efficiency programs and Public Benefits Fund.
3. Ensure that new buildings are energy efficient by updating building codes.
4. Establish state government as a leader and driver of energy efficiency and renewable energy.
5. Pass a strong Renewable Energy Standard and remove unfair barriers to renewable energy.

These options are not meant to be an exhaustive list, but rather a starting point for an ongoing dialogue. Our Legislature and Governor should use these suggestions to begin to invest in the smarter energy future that Michiganders desire and deserve. This approach would provide Michiganders with more jobs, boost our flagging economy, reduce our air pollution, clean up the Great Lakes, and move Michigan toward energy independence. Now is the time for an all-hands-on-deck effort to adopt smart energy solutions for the 21st Century.

Step 1: Provide incentives and standards for energy-efficient products and services.

I ncreasing the efficiency of our products and services is the most basic and perhaps most powerful way to reduce energy costs and move Michigan toward energy independence. While all consumers benefit from improving energy efficiency, additional financial incentives and standards can spur consumers and businesses to take action immediately. This action is most needed for home heating since our constrained natural gas supplies and growing consumption are leading to highly volatile and increasing prices.

Action 1: Implement Energy Efficient Standards for Products

When Ronald Reagan was Governor of California, his administration adopted the first energy efficiency standards for common household appliances, requiring appliance manufacturers to design appliances to operate on less energy. Since then, appliance standards have been very successful in reducing energy waste. By the year 2010, our national electric bill will be 6.5% lower due to appliance standards.³ Unfortunately, many federal standards are outdated. While the federal energy legislation passed in 2005 included some appliance standard updates, **many products remain covered by an out-of-date standard or none at all.** For example, home furnaces are covered under a standard passed nearly 20 years ago.

Michigan should follow the lead of the 7 states that have already adopted standards

for at least one of the 15 most common products not covered or inadequately covered by federal standards. Once fully in place, standards in just the five states (AZ, MA, OR, RI and WA) which adopted the standards in 2005, will annually **save enough electricity (3,970 GWh) to power 550,000 homes**, save \$403 million in electricity costs for consumers, and reduce pollution equivalent to taking 647,500 cars off the road (including 3,146 metric tons of carbon dioxide).⁴

Adoption of these standards would immediately bring down heating and electricity bills as well as help Michigan's manufacturers which produce these products. Michigan is already home to Whirlpool and other companies that could add jobs to meet the resulting demand for efficient appliances and other products.⁵

Action 2: Provide Market-based, Revenue-neutral Incentives for Energy Efficient Products and Services.

Michigan can encourage the production and use of energy efficient products and services through a shifting of subsidies toward energy efficient products and services

and away from energy wasting items. This shifting would be—at a minimum—revenue neutral and, more likely, **provide a net economic benefit** through the economy building features of these policies. 14 other states have begun to do this to level the playing field for energy efficient products and services by bringing down the initial cost and allowing consumers to focus on the long-term energy savings.

For example, by removing the state sales taxes on EPA “Energy Star” rated appliances, Oregon has seen a 49% increase in

energy star purchases while Maryland has seen a 41% increase. A similar policy in Michigan would **save consumers \$37.9 million per year on utility bills as well as generate \$127.3 million in “economic stimulus”**. The cost for the state would be \$15 million in direct lost sales taxes; clearly, a large net benefit.⁶ Appliance manufacturers and vendors in Michigan—such as Whirlpool—would benefit from this incentive-based policy, which represents only the tip of the iceberg in terms of possibilities for market-based energy efficiency incentives.

Step 2: Reinstate utility energy efficiency programs and Public Benefits Fund.

Michigan used to be a leader in energy efficiency due to the leadership of the PSC, Governor Milliken and others. These efforts ensured that utilities implemented energy efficiency programs for businesses, homeowners and others. Since utilities increase their profits by selling more energy they have little incentive to promote energy conservation and efficiency. Therefore, strong government leadership is necessary. However, in 1996, utility energy efficiency efforts were abandoned due to partisan politics and the strong influence of the utilities on regulatory policy. Given our current energy crunch, it is past time for Michigan to recommit to utility energy efficiency.

Action 1: Immediately Institute Utility Sector Energy Efficiency Programs

The first key to energy efficiency through utilities is to provide incentives for consumers and businesses to succeed. For example, consumers should receive rebates on utility bills if they reduce electricity or natural gas consumption below a specific threshold in a single year. A program initiated during the California energy crisis of 2001 provided a 20% rebate for consumers who reduced their electricity usage by 20% below the summer before. The incredible results were a more than **10% total decrease in monthly peak electricity usage** in the 4 months of the program with more than 30% of customers qualifying for rebates.⁷ Michigan could implement a similar program for natural gas usage in the winter.

The benefits of a utility energy efficiency programs are three-fold. First, all rate-payers benefit from a reduced need to pay for expensive peak generation and investments in the transmission and distribution system.

Second, individual energy consumers can take advantage of efficiency opportunities to significantly reduce their personal energy bills. Third, energy savings produce social benefits including reduced global warming emissions and air pollution. The PSC is currently evaluating utility sector energy efficiency programs. The outcome of this evaluation should be a **strong re-commitment to these programs**, tying utility rate increase requests to the success of their efficiency programs or, better yet, decoupling utility profits from their energy sales to reduce resistance to and provide incentives for efficiency.

Action 2: Adopt a System-Wide Public Benefits Fund (PBF)

One significant barrier to utility efficiency programs is lack of funding. Through a PBF, energy consumers fund energy efficiency (as well as low-income heating assistance) through a charge that appears on energy bills. **These programs have been extremely successful at implementing energy (electricity and natural gas) saving solutions in many states, but were significantly cut in Michigan and elsewhere during the deregulation movement of the 1990s.** 20 states currently have a PBF. In just 12 of those states, the programs thus far save 2.8 million MWh per year, with benefits that will compound and grow over time.

In Michigan, the electricity restructuring law (PA 141) created a low income and energy efficiency fund to be financed from savings from utility securitization, but only DTE has experienced savings thus far and the majority of money went to low-income bill payment assistance. The PSC included \$40 million in this account in DTE's next rate case, but the funding is being legally challenged. The median state PBF is \$160 million per year; with this minimal investment in Michigan (which would cost the average home less than \$20/year), **Michigan would save hundreds of millions of**

dollars per year through energy efficiency.⁸

Clearly, the current piecemeal approach in Michigan is not effective and needs to be greatly expanded and standardized. The legislature can avoid the legal problems and promote energy efficiency by **creating and maintaining a strong PBF through the PSC that balances energy-efficiency with low-income bill paying assistance.** This PBF should include authorization of "cost-effective energy efficiency" projects as well as low-income assistance through a charge of up to 2% of natural gas and electricity bills.

Action 3: Implement PAYS® (Pay-As-You-Save) Programs

Implementing a PAYS® program (as one part of a broader natural gas and electric utility energy efficiency program) would provide substantial cost savings to energy consumers and reduce energy consumption by providing incentives for the most cost-effective efficiency upgrades. PAYS® works by having vendors sell energy efficiency products through a tariffed charge on utility bills. **The expected savings from the efficiency equipment always exceeds the charge on the utility bill.** Therefore, all that businesses or residents see is a decline in their energy bills resulting from "free" energy efficiency upgrades. There is no upfront payment or debt commitment and when a business or resident moves, the charge and savings are passed on to the next occupant.

This innovative approach—**which helps solve incentive problems that hold back energy efficiency for major building upgrades**—is working in New Hampshire, and will be tested in pilot form in Michigan in 2006. While the pilot will be limited in scope and still requires startup funding to ensure success, the PSC should encourage this approach, closely monitor the results and, if successful, expand and make it permanent. PAYS® represents the kind of innovative thought and action that is required to sharply increase our energy efficiency, particularly in consumption of natural gas.⁹

Step 3: Ensure that new buildings are energy efficient by updating building codes.

Michigan's energy usage—now and for years to come—is directly impacted by building construction decisions. Independent agencies create building energy codes, which can be a highly effective policy tool when adopted, updated and followed. This is particularly critical now because recent years have seen tremendous advances in energy-efficient building technologies and practices. These codes have real impacts: Since 1991, national model energy codes have delivered **cumulative energy cost savings exceeding \$7.4 billion** and saved enough energy over the past 15 years to meet the requirements of 4.7 million homes for one year.¹⁰

Action 1: Adopt the 2006 International Energy Conservation Code (IECC) Residential Building Code

The residential building code is a **crucial leverage point in reducing Michigan's energy consumption**. With the new residential building boom, natural gas supply crunch and increasingly sophisticated energy savings technology, a strong residential building code is essential to decrease energy demand. Unfortunately, home builders have little incentive to build efficient homes since building construction costs for builders may be slightly higher

while the energy savings are received by occupants who typically do not consider energy efficiency as a factor in home purchases.

This mismatch in incentives means that government intervention to level the playing field and bring down energy costs for everyone is needed. Unfortunately, **Michigan's current residential building codes are lagging behind other states and are bogged down in court cases**. The Michigan Uniform Energy Code Part 10 Rules, less stringent than 1992 Model Energy Code, is mandatory statewide. To update this very out-of-date code, the Granholm Administration promulgated new rules—Chapter 11 of the 2003 edition of the International Residential Code (IRC) with amendments. However, these rules are under a court injunction because of opposition from the Michigan Association of Home Builders, which argues that the Administration lacks the authority to implement them. A court decision is expected in January. Regardless of the outcome, the Michigan Legislature should endorse the 2006 IECC code and give the Administration the clear authority to implement it. Then, the Administration should adopt the 2006 IECC code with an amendment for forced-air heating systems.¹¹ The benefits for Michigan's homeowners would be tremendous.

Since 1991, national model energy codes have delivered cumulative energy cost savings exceeding \$7.4 billion and saved enough energy over the past 15 years to meet the energy requirements of 4.7 million homes for one year.¹⁰

Action 2: Adopt the Recent American Society of Heating, Refrigerating and Air-Conditioning Engineers Commercial Building Code (ASHRAE 90.1-2004).

The situation and incentives for commercial buildings are nearly identical to that of residential buildings. Currently, the outdated ASHRAE/IESNA 90.1-1999 is mandatory statewide. For commercial

buildings, the most recent code (ASHRAE 90.1-2004) should be adopted because it saves energy by decreasing lighting power densities and requiring up-to-date technology. Moreover, it simplifies the code, making it easier for designers and code officials.¹⁰ Therefore, Michigan should upgrade to the 2004 standards with the Legislature's explicit approval and Administration's adoption.

The Governor should use her high profile to promote appropriate solutions to skyrocketing natural gas prices this winter and long-term energy supply problems.

Step 4: Establish state government as a leader and driver of energy efficiency and renewable energy.

Governor Granholm and her administrative agencies have the ability to set the tone of public debate and focus attention on pressing issues. The Governor should use her high profile to promote appropriate solutions to skyrocketing natural gas prices this winter and long-term energy supply problems. The issuance of Executive Direction 2005-4 (Energy Efficiency in State Facilities and Operations) and funding for clean energy technology in the 21st Century Jobs Fund are a strong start, but far more remains to be done.

Action 1: Implement the EDGE 2 Recommendations.

The Governor received a set of recommendations painstakingly assembled by the Department of Environmental Quality

with key input from other departments and stakeholders. The effort is called Economic Development and Growth through Environmental Efficiency (EDGE2), and includes steps such as: Establishing an energy sustainability council & Roundtable; developing a state energy plan; launching a public outreach and awareness campaign; involving higher education institutions in alternative energy; developing a Renewable Energy Portfolio Standard; and instituting utility sector energy efficiency programs. **Thus far, there has been no action in implementing these comprehensive, common-sense recommendations** from experts in the Granholm administration. In fact, many of the suggested timeframes for action on the recommendations have already passed. The time is now for implementation of the EDGE 2 recommendations.

Action 2: Distribute Home Energy Efficiency Materials and Encourage Conservation

The state should distribute **inexpensive yet effective technologies** for reducing home energy consumption including: compact fluorescent light bulbs, low-flow showerheads, pipe wraps and water heater blankets. Distribution could be managed by a combination of utility energy-efficiency programs, local governments, and community organizations. Moreover, the Granholm administration should make an immediate call for voluntary **energy conservation** and energy efficiency improvements this winter, and enlist the help of businesses, the media, nonprofit organizations and others in implementing and promoting energy conservation practices. This includes issuing an “energy conservation challenge” to commercial and institutional energy users, offering to publicly recognize those institutions that make outstanding progress in saving energy this winter by cutting down on natural gas consumption. These programs will not only ease energy bills for citizens who receive the services, but will create net economic benefits for the state

by helping to keep down all users’ energy costs.

Action 3: Join in the Midwest Natural Gas Initiative

The Midwest Natural Gas Initiative, coordinated by the Midwest Energy Efficiency Alliance (MEEA), has a goal of decreasing natural gas consumption by 1% per year for five years in eight Midwestern states. According to an analysis by ACEEE, doing so will **decrease wholesale natural gas prices by as much as 13%.**¹² If the initiative is successful, the net economic savings to Michigan customers will be \$745 million by 2010 along with creating an estimated 5,170 new jobs and \$130 million in additional employee compensation.¹³ Leaving this much economic gain untapped is no longer affordable for our state’s residents and businesses. Governor Granholm should immediately join Wisconsin, Iowa and Minnesota in the Midwest Natural Gas Initiative, which she can do by signing a Memorandum of Understanding committing the state to meeting the 1% per year reduction goal.

Step 5: Pass a strong Renewable Energy Standard (RES) and remove unfair barriers to renewable energy

Michigan’s electricity portfolio includes 56.7% coal, 26.4% nuclear, 13.4% natural gas and only 2% from renewable sources.¹⁴ The oil, coal, utility, auto and other industries with a vested stake in delaying a transition to a clean, prosperous, renewable economy have created this fossil fuel and nuclear dependence through a highly subsidized environment. However, Michigan has much to gain by

leveling the playing field and pursuing policies based on wind energy and other renewables. Perhaps most importantly for a state that is continually losing manufacturing jobs, **Michigan has the potential for over 10,000 new jobs from wind turbine production** (which ranks 6th highest nationally).¹⁵ Moreover, an RES can help drive down costs of natural gas by easing the supply crunch.

Action 1: Pass a Renewable Energy Standard (RES) of 20% by 2020

The Michigan Legislature should pass and the Governor should sign a bill that establishes a 20% RES by 2020. The RES should include only clean, renewable sources of energy (wind, solar, clean biomass and landfill). This one action would have the most impact in leveling the playing field for renewable energy and driving new economic development in Michigan. Over the past 50 years, the federal government has provided more than \$500 billion to the fossil fuel and nuclear industries, while investing only a tiny fraction in renewable sources of energy such as wind, solar, and geothermal.¹⁶ Wind energy and other renewables are cost-competitive if you take out the enormous government subsidies for fossil fuels. Renewables costs continue to drop over time, while the costs for fossil fuels will inevitably rise as supplies continue to dwindle. For now, **renewables need a boost to level the playing field and remove market distortions.** 21 other states have adopted an RES and have become leaders in renewable energy generation, particularly in the installation of wind turbines.

Using more wind, solar and other renewable energy sources will directly and positively impact electricity and natural gas prices. By displacing electric power production from natural gas power plants, renewables reduce gas demand and make gas more readily available at lower prices for other uses. In addition, the cost of renewable energy is the same during peak and off-peak energy usage periods because renewable energy has no fuel costs. Therefore, renewable energy has the potential to significantly relieve energy costs during peak generation times such as the hot summer months and the cold winter months.

Moreover, committing to renewable energy **means more jobs for Michiganders.** According to PIRGIM's analysis, a 20% national RES by 2020 would create over 5,500 net jobs in Michigan in 2020 and a net annual average of over 3,300 net jobs between 2005-2020 through energy production alone.¹⁷ This estimate is considered to be conservative since there is huge export potential for clean energy technology, as demonstrated by the recent doubling (by building an \$80 million new plant) of Auburn Hills-based United Solar Ovonic, which exports solar panels.¹⁸ Research to determine the benefits from a Michigan-specific RES is currently underway and will conclude in 2006.

Action 2: Remove Unfair Barriers and Provide Incentives for Renewable Energy Development

Michigan's potential for renewable energy—particularly wind—is barely being tapped in part because of a confusing swirl of local regulations that govern the siting of wind turbines. Currently, developers have to deal with the over 1,800 local government authorities in Michigan individually. The best solution is for statewide regulations that establish reasonable zoning, safety and other features for wind turbines. Moreover, the Legislature should recognize the job potential in wind turbine production and provide tax credits. Removing barriers and providing incentives is important because **Michigan could generate enough electricity to power nearly 2 million (out of 3.7 million) households from wind alone.** Michigan's wind power potential is over 16,000 MW onshore and over 44,000 MW offshore.¹⁹

Many of these programs are being funded by a combination of federal and state funds. The federal government is providing a significant amount of funding for these programs.

Conclusion: A Smart Investment for Michigan's Future

Because of short-sighted energy policies, **Michigan has some of the weakest efforts** in the country toward energy efficiency and renewable energy. This situation maintains an uneven playing field that favors expanded fossil fuel usage despite the obvious economic, health and environmental drawbacks of this approach. Michigan is falling further and further behind in moving toward energy independence. We remain dependent on the highly-subsidized, highly-polluting, unstable, out-of-state fossil fuel and nuclear industry, and our economy is subject to extreme price fluctuations. This occurs despite surveys repeatedly showing strong support among Michiganders for energy efficiency, renewable energy and for decreasing our reliance on out-of-state resources to meet our energy needs.

While the future of energy efficiency, renewable and conservation programs in Michigan are uncertain, the benefits associated with these programs are clear: they are good for consumers, our economy, our health and our environment. We can lower heating and electricity bills for residents across the state with meaningful programs that will have an impact this year and for

many years to come. We can create tens of thousands of jobs and save hundreds of thousands of dollars through clean energy initiatives. We have an opportunity and responsibility to make the serious investments that will provide long-term energy security by maximizing investments in cost-effective energy efficiency and renewable energy measures, increasing public education and continuing to fund programs that will diversify our energy resource portfolios. This is, by every measure, **a smart investment for Michigan's future**. 2006 will be a pivotal year in shaping this future.

Michigan would not be alone: There is ample experience from around the nation that points us to programs that are tried and true and will produce results. Michigan policymakers can and should adopt the five steps presented in this white paper to invest in a smarter energy future. These steps are not a comprehensive plan, but would begin to chart a course toward a more affordable, stable, sustainable and healthy energy future. Taking these steps would chart a course toward an affordable, stable, prosperous, sustainable and healthy energy future. **Michigan cannot afford to wait any longer.**

Acknowledgments

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With public debate around important issues often dominated by special interests pursuing their own narrow agendas, PIRGIM Education Fund offers an independent voice that works on behalf of the public interest. PIRGIM Education Fund, a non-partisan, non-profit 501(c)(3) organization, works to preserve the environment, protect consumers and promote good government in Michigan. We investigate problems, craft solutions, and offer Michigan residents meaningful opportunities for civic engagement.

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The author alone is responsible for any factual errors. The opinions expressed are those of the author and the PIRGIM Education Fund, and do not necessarily reflect the views of our partners or funders.

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